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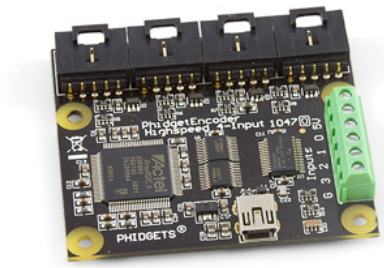
1047 - PhidgetEncoder HighSpeed 4-Input



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1	**$100.00**
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Product Features

- Reads up to 4 encoders simultaneously
- Time Resolution of 1 µs
- Includes 4 Digital Inputs for detecting the state of switches and sensors
- Connects directly to a USB port on your PC

Product Description

The PhidgetEncoder Highspeed 4-Input can be used with a wide assortment of mechanical and optical encoders. The encoder should be of quadrature output type, indicating that there will be two quadrature output channels (usually labeled A and B) and a third output channel (only on some encoders) to signal when the index pin (a reference point for zero position or a complete revolution) has been reached.

The PhidgetEncoder Highspeed 4-Input is able to read four encoders simultaneously. Encoders are not powered up until all initialization of the device is complete. It is possible to enable some or all encoders, depending on how many of the channels are being used. This can also be used to reduce power consumption when certain encoders are not needed.

The PhidgetEncoder Highspeed 4-Input has the added ability to time the duration between a group of quadrature changes. The time is returned in microseconds. This time value can be used to calculate velocity and acceleration.

Both mechanical and optical encoders are available, with optical encoders dominating at > 100 counts per second. Review the data sheet for the encoder you are planning to use to ensure it is compatible with the PhidgetEncoder Highspeed 4-Input. Almost any incremental quadrature encoder will work but it is important to verify this before connecting it to the Phidget. Absolute encoders will not work with this device. Ideally, you should choose a quadrature encoder with a 5-pin output and the following pinout in order to be directly compatible with the 1047.

Resources

- Product Manual
- Mechanical Drawings
- Download 3D Step File
- Programming Resources

Related Products

If you only need a single encoder, check out the 1057 - PhidgetEncoder HighSpeed.

Comes Packaged with:

- A 3018 - Mini-USB Cable 180cm
- Four 3019 - HighSpeed Encoder Cable 50cm
- A Hardware mounting kit (4 nuts and bolts, 4 plastic spacers)

Warning

The 1047 has the ability to power off individual encoders. This feature can be a problem if there is enough capacitance in the encoder to cause a droop in USB voltage when it is turned on. From software, you may notice the 1047 resets when an encoder is enabled.

If this is an issue, connect the Red (+5V) wire from the encoder to the 5V pin on the digital input terminal block. All 4 encoders can be attached to this pin if necessary.

Product Specifications

Encoder

Maximum Count Rate	250,000 counts/second
Internal Output Pull-Up Resistance	10 kilo Ohms
Software Update Rate (typical)	8 ms
USB Update Rate	125 samples/second
Time Resolution	1 µs

Current

Max Device Current Consumption (all channels enabled)	500 mA
Min Device Current Consumption (all channels disabled)	30 mA
Maximum Current Consumption per Encoder	200 mA
Maximum Current Consumption for all Encoders	470 mA

Voltage

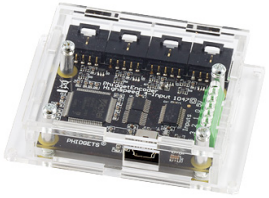
Min/Max USB Supply Voltage	4.75 - 5.25 VDC
Encoder Input Low Voltage	1.4 V
Encoder Input High Voltage	> 1.8 V

Board

Operating Temperature	0 - 70°C

Enclosure

You can protect your board by purchasing the 3809 - Acrylic Enclosure for the 1047.



Code Samples For This Product

- C# (Windows)
- C/C++ (Linux/MacOS)
- C/C++ (Windows)
- Cocoa
- Flash AS3
- Flex AS3
- Java
- LabVIEW (64bit; Windows Only)
- LabVIEW (32bit; Windows/Mac OSX/Linux)
- Max/MSP (Mac OSX)
- Max/MSP (Windows)
- Python
- Visual Basic .NET
- Visual Basic 6.0
- Visual Basic for Applications
- Visual Basic Script